

Aeronautics Educator Guide			
2006 Science			
Program of Studies			
Kentucky Science			
Grades K-3			
Activity/Lesson	State	Standards	
Air Engines (12-16)	KY	SCI.K-3.SC-P-MF-U-2	forces (pushes or pulls) can cause objects to start moving, go faster, slow down, or change the direction they are going.
Air Engines (12-16)	KY	SCI.K-3.SC-P-MF-U-3	the position of an object can be described by locating it relative to another object or the background.
Rotor Motor (69-75)	KY	SCI.K-3.SC-P-UD-S-7	ask questions that can be investigated, plan and conduct 'fair tests,' and communicate (e.g., write, draw, speak, multi-media) findings to others
Flight: Interdisciplinary Learning Activities (76-79)	KY	SCI.K-3.SC-P-UD-S-7	ask questions that can be investigated, plan and conduct 'fair tests,' and communicate (e.g., write, draw, speak, multi-media) findings to others
Making Time Fly (80-86)	KY	SCI.K-3.SC-P-STM-U-5	in science, it is often helpful to work with a team and to share findings with others. All team members should reach their own individual conclusions, however, about what the findings mean.
Where is North? The Compass Can Tell Us (87-90)	KY	SCI.K-3.SC-P-MF-S-8	ask questions about motion, magnetism and sound and use a variety of print and non-print sources to gather and synthesize information
Where is North? The Compass Can Tell Us (87-90)	KY	SCI.K-3.SC-P-UD-S-7	ask questions that can be investigated, plan and conduct 'fair tests,' and communicate (e.g., write, draw, speak, multi-media) findings to others
Let's Build a Table Top Airport (91-96)	KY	SCI.K-3.SC-P-ET-S-2	create or interpret sketches, diagrams, 3-dimensional constructions and concept maps as models that can be used to represent things that can be seen, cannot be seen, or cannot be seen easily or in their entirety
Plan to Fly There (97-106)	KY	SCI.K-3.SC-P-EU-S-7	communicate observations, investigations and conclusions orally and with written words, charts and diagrams
We Can Fly, You and I: Interdisciplinary Learning (107-108)	KY	SCI.K-3.SC-P-EU-S-3	observe weather conditions and record weather data over time using appropriate tools (e.g., thermometer, wind vane, rain gauge, etc.)
We Can Fly, You and I: Interdisciplinary Learning (107-108)	KY	SCI.K-3.SC-P-ET-S-2	create or interpret sketches, diagrams, 3-dimensional constructions and concept maps as models that can be used to represent things that can be seen, cannot be seen, or cannot be seen easily or in their entirety
Dunked Napkin (17-22)	KY	SCI.K-3.SC-P-STM-U-5	in science, it is often helpful to work with a team and to share findings with others. All team members should reach their own individual conclusions, however, about what the findings mean.

Dunked Napkin (17-22)	KY	SCI.K-3.SC-P-STM-S-6	work with others to investigate questions about properties of materials, documenting and communicating observations, designs, procedures and results
Dunked Napkin (17-22)	KY	SCI.K-3.SC-P-MF-U-6	discovering patterns through investigation/observation allows predictions, based on that evidence, to be made about future events.
Dunked Napkin (17-22)	KY	SCI.K-3.SC-P-UD-S-7	ask questions that can be investigated, plan and conduct 'fair tests,' and communicate (e.g., write, draw, speak, multi-media) findings to others
Paper Bag Mask (23-28)	KY	SCI.K-3.SC-P-STM-S-2	use appropriate tools (e.g., balance, metric ruler, thermometer, graduated cylinder) to measure and record length, width, volume, temperature and mass of material objects and to answer questions about objects and materials
Paper Bag Mask (23-28)	KY	SCI.K-3.SC-P-UD-S-7	ask questions that can be investigated, plan and conduct 'fair tests,' and communicate (e.g., write, draw, speak, multi-media) findings to others
Wind in Your Socks) (29-35)	KY	SCI.K-3.SC-P-STM-S-2	use appropriate tools (e.g., balance, metric ruler, thermometer, graduated cylinder) to measure and record length, width, volume, temperature and mass of material objects and to answer questions about objects and materials
Wind in Your Socks) (29-35)	KY	SCI.K-3.SC-P-MF-U-6	discovering patterns through investigation/observation allows predictions, based on that evidence, to be made about future events.
Wind in Your Socks) (29-35)	KY	SCI.K-3.SC-P-MF-S-2	observe and describe (e.g., using words, pictures, graphs) the change in position over time (motion) of an object
Wind in Your Socks) (29-35)	KY	SCI.K-3.SC-P-EU-S-3	observe weather conditions and record weather data over time using appropriate tools (e.g., thermometer, wind vane, rain gauge, etc.)
Wind in Your Socks) (29-35)	KY	SCI.K-3.SC-P-EU-S-7	communicate observations, investigations and conclusions orally and with written words, charts and diagrams
Bag Balloons (40-43)	KY	SCI.K-3.SC-P-MF-S-8	ask questions about motion, magnetism and sound and use a variety of print and non-print sources to gather and synthesize information
Bag Balloons (40-43)	KY	SCI.K-3.SC-P-UD-S-7	ask questions that can be investigated, plan and conduct 'fair tests,' and communicate (e.g., write, draw, speak, multi-media) findings to others

Sled Kite (44-51)	KY	SCI.K-3.SC-P-STM-S-2	use appropriate tools (e.g., balance, metric ruler, thermometer, graduated cylinder) to measure and record length, width, volume, temperature and mass of material objects and to answer questions about objects and materials
Sled Kite (44-51)	KY	SCI.K-3.SC-P-UD-S-7	ask questions that can be investigated, plan and conduct 'fair tests,' and communicate (e.g., write, draw, speak, multi-media) findings to others
Right Flight (52-59)	KY	SCI.K-3.SC-P-MF-S-4	use tools (e.g., timer, meter stick, balance) to collect data about the position and motion of objects in order to predict changes resulting from pushes and pulls
Delta Wing Glider (60-68)	KY	SCI.K-3.SC-P-EU-U-6	raising questions about the Earth and the Universe and seeking answers to some of them (by careful observation and/or investigation) is what science is all about.
Delta Wing Glider (60-68)	KY	SCI.K-3.SC-P-ET-S-2	create or interpret sketches, diagrams, 3-dimensional constructions and concept maps as models that can be used to represent things that can be seen, cannot be seen, or cannot be seen easily or in their entirety

Aeronautics Educator Guide

2006 Science

Program of Studies

Kentucky Science			
Grade 4			
Activity/Lesson	State	Standards	
Air Engines (12-16)	KY	SCI.4.SC-4-MF-U-1	an object's motion can be described as its change in position over time and can be represented in a variety of ways.
Air Engines (12-16)	KY	SCI.4.SC-4-MF-S-5	answer student-generated questions through investigative and non-investigative processes about what affects motion and sound using information from a variety of print and non-print sources
Rotor Motor (69-75)	KY	SCI.4.SC-4-MF-U-1	an object's motion can be described as its change in position over time and can be represented in a variety of ways.
Rotor Motor (69-75)	KY	SCI.4.SC-4-MF-S-1	measure and record changes (using appropriate charts, graphs) in the position and motion of an object to which a force has been applied
Rotor Motor (69-75)	KY	SCI.4.SC-4-MF-S-5	answer student-generated questions through investigative and non-investigative processes about what affects motion and sound using information from a variety of print and non-print sources

Flight: Interdisciplinary Learning Activities (76-79)	KY	SCI.4.SC-4-MF-U-2	forces (pushes and pulls) cause changes in the direction or speed of something moving; the greater the force on an object, the greater its change in motion.
Making Time Fly (80-86)	KY	SCI.4.SC-4-ET-S-6	design and conduct investigations/experiments to compare properties of conducting and nonconducting materials (both heat and electrical), documenting and communicating (speak, draw, write, demonstrate) observations, designs, procedures and results of scientific investigations
Where is North? The Compass Can Tell Us (87-90)	KY	SCI.4.SC-4-MF-S-5	answer student-generated questions through investigative and non-investigative processes about what affects motion and sound using information from a variety of print and non-print sources
Where is North? The Compass Can Tell Us (87-90)	KY	SCI.4.SC-4-ET-S-9	answer student-generated questions about forms of energy (e.g., heat, light, sound, magnetic effects) using information from a variety of print and non-print sources
Let's Build a Table Top Airport (91-96)	KY	SCI.4.SC-4-EU-U-5	a model of something can never be exactly like the real thing, but can be used to learn something about the real thing.
Let's Build a Table Top Airport (91-96)	KY	SCI.4.SC-4-ET-U-6	seeing how a model works after changes are made to it may suggest how the real thing would work if the same thing were done to it.
We Can Fly, You and I: Interdisciplinary Learning (107-108)	KY	SCI.4.SC-4-ET-U-6	seeing how a model works after changes are made to it may suggest how the real thing would work if the same thing were done to it.
We Can Fly, You and I: Interdisciplinary Learning (107-108)	KY	SCI.4.SC-4-I-U-3	people impact their environment in both beneficial and harmful ways. Some of these impacts can be predicted, while others cannot.
Dunked Napkin (17-22)	KY	SCI.4.SC-4-UD-S-5	answer student-generated questions about the diversity of living things using information from a variety of print and non-print sources
Dunked Napkin (17-22)	KY	SCI.4.SC-4-BC-U-2	scientists ask many questions about the world around them, but not all of their questions can be investigated in a scientific way. Part of the job of a scientist is to focus only on questions that can be scientifically tested.
Dunked Napkin (17-22)	KY	SCI.4.SC-4-BC-U-3	scientists pay more attention to claims when they are supported with evidence that can be confirmed through scientific investigation.
Paper Bag Mask (23-28)	KY	SCI.4.SC-4-STM-S-6	investigate student-generated questions about the properties of matter and uses of matter with particular properties
Paper Bag Mask (23-28)	KY	SCI.4.SC-4-MF-S-1	measure and record changes (using appropriate charts, graphs) in the position and motion of an object to which a force has been applied

Paper Bag Mask (23-28)	KY	SCI.4.SC-4-BC-S-3	answer student-generated questions about how/why organisms and the environment have changed over time using information from a variety of print and non-print sources to support claims/provide evidence for conclusions
Wind in Your Socks) (29-35)	KY	SCI.4.SC-4-MF-S-1	measure and record changes (using appropriate charts, graphs) in the position and motion of an object to which a force has been applied
Wind in Your Socks) (29-35)	KY	SCI.4.SC-4-MF-S-5	answer student-generated questions through investigative and non-investigative processes about what affects motion and sound using information from a variety of print and non-print sources
Wind in Your Socks) (29-35)	KY	SCI.4.SC-4-BC-S-3	answer student-generated questions about how/why organisms and the environment have changed over time using information from a variety of print and non-print sources to support claims/provide evidence for conclusions
Bag Balloons (40-43)	KY	SCI.4.SC-4-STM-U-3	properties of materials may change if the materials become hotter or colder.
Bag Balloons (40-43)	KY	SCI.4.SC-4-BC-S-3	answer student-generated questions about how/why organisms and the environment have changed over time using information from a variety of print and non-print sources to support claims/provide evidence for conclusions
Bag Balloons (40-43)	KY	SCI.4.SC-4-ET-U-5	heat is a form of energy that results when another form of energy is transformed. Heat flows through different materials at different rates, and it naturally flows from warmer areas to cooler ones.
Sled Kite (44-51)	KY	SCI.4.SC-4-MF-S-5	answer student-generated questions through investigative and non-investigative processes about what affects motion and sound using information from a variety of print and non-print sources
Right Flight (52-59)	KY	SCI.4.SC-4-EU-U-5	a model of something can never be exactly like the real thing, but can be used to learn something about the real thing.
Right Flight (52-59)	KY	SCI.4.SC-4-ET-U-6	seeing how a model works after changes are made to it may suggest how the real thing would work if the same thing were done to it.
Right Flight (52-59)	KY	SCI.4.SC-4-I-S-2	use evidence and observations to make predictions/draw conclusions about how changes in the environment affect the plants' and animals' ability to survive
Delta Wing Glider (60-68)	KY	SCI.4.SC-4-EU-U-5	a model of something can never be exactly like the real thing, but can be used to learn something about the real thing.
Delta Wing Glider (60-68)	KY	SCI.4.SC-4-ET-U-6	seeing how a model works after changes are made to it may suggest how the real thing would work if the same thing were done to it.